



P.B.5818 - Patentlaan 2  
2280 HV Rijswijk (ZH)  
T +31 70 340 2040  
TX 31651 epo nl  
FAX +31 70 340 3016

**Europäisches  
Patentamt**

Zweigstelle  
in Den Haag  
Recherchen-  
abteilung

**European  
Patent Office**

Branch at  
The Hague  
Search  
division

**Office européen  
des brevets**

Département à  
La Haye  
Division de la  
recherche

Kuhnen & Wacker  
Patentanwaltsgesellschaft mbH,  
Alois-Steinecker-Strasse 22  
85354 Freising  
ALLEMAGNE

**KUHNEN & WACKER**  
Patentanwaltsgesellschaft mbH

Eing. 30. Juli 2001

Frist .....

Datum/Date

30.07.01

Zeichen/Ref./Réf.

56 ND 01 L 12

Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°.

01108502.4-2207-

Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire  
Denso Corporation

**COMMUNICATION**

サ  
テレポート

The European Patent Office herewith transmits as an enclosure the European search report for the above-mentioned European patent application.

If applicable, copies of the documents cited in the European search report are attached.

☒ Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

The following specifications given by the applicant have been approved by the Search Division:

☒ abstract

☒ title

☐ The abstract was modified by the Search Division and the definitive text is attached to this communication.

The following figure will be published together with the abstract: 1

**REFUND OF THE SEARCH FEE**

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.





European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 01 10 8502

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.CI.7)
Y	EP 0 300 063 A (NIPPON DENSO CO) 25 January 1989 (1989-01-25) * page 4, line 25 - page 5, line 29; figures 2,3 *	1-8,10	H02K19/36 H02K9/02 H02K5/14 H02K9/06 H02K5/22 H02K11/04
Y	US 5 677 616 A (OOIWA TOORU) 14 October 1997 (1997-10-14) * column 8, line 8 - line 57; figures 1-3,5,9,10 *	1-8,10	
A	DE 41 31 966 A (MITSUBISHI ELECTRIC CORP) 9 April 1992 (1992-04-09) * column 1, line 42 - line 64; figure 5 *	1-10	
A	US 5 998 891 A (BALLARD MICHAEL D ET AL) 7 December 1999 (1999-12-07) * column 19, line 60 - column 20, line 9; figure 18 *	1-10	
D,A	PATENT ABSTRACTS OF JAPAN vol. 1999, no. 11, 30 September 1999 (1999-09-30) & JP 11 164518 A (DENSO CORP), 18 June 1999 (1999-06-18) * abstract *	1-10	TECHNICAL FIELDS SEARCHED (Int.CI.7) H02K
A	PATENT ABSTRACTS OF JAPAN vol. 005, no. 070 (E-056), 12 May 1981 (1981-05-12) & JP 56 019353 A (NIPPON DENSO CO LTD), 24 February 1981 (1981-02-24) * abstract *	1-10	
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 19 July 2001	Examiner Tangocci, A
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

1  
EPO FORM 1503 03 82 (P04C01)





European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 01 10 8502

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	PATENT ABSTRACTS OF JAPAN vol. 1997, no. 10, 31 October 1997 (1997-10-31) & JP 09 172752 A (DENSO CORP), 30 June 1997 (1997-06-30) * abstract *	1-10	
A	----- PATENT ABSTRACTS OF JAPAN vol. 018, no. 275 (E-1553), 25 May 1994 (1994-05-25) & JP 06 046547 A (NIPPONDENSO CO LTD), 18 February 1994 (1994-02-18) * abstract *	1-10	
A	----- PATENT ABSTRACTS OF JAPAN vol. 018, no. 397 (E-1583), 26 July 1994 (1994-07-26) & JP 06 113505 A (NIPPONDENSO CO LTD), 22 April 1994 (1994-04-22) * abstract *	1-10	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 19 July 2001	Examiner Tangocci, A
<div>CATEGORY OF CITED DOCUMENTS</div> <div>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</div> <div>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</div>			

1

EPO FORM 1503 03/82 (P04C01)



**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 01 10 8502

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

19-07-2001

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0300063	A	25-01-1989	JP 1377447 C	08-05-1987
			JP 56086052 A	13-07-1981
			JP 60036701 B	22-08-1985
			DE 3070352 D	25-04-1985
			DE 3072198 A	09-04-1992
			EP 0030725 A	24-06-1981
			US 4794285 A	27-12-1988
			US 4926076 A	15-05-1990
US 5677616	A	14-10-1997	JP 8331817 A	13-12-1996
DE 4131966	A	09-04-1992	FR 2667459 A	03-04-1992
US 5998891	A	07-12-1999	US 6198191 B	06-03-2001
			US 6160333 A	12-12-2000
JP 11164518	A	18-06-1999	DE 19811601 A	01-04-1999
			FR 2768870 A	26-03-1999
			US 6060802 A	09-05-2000
JP 56019353	A	24-02-1981	NONE	
JP 09172752	A	30-06-1997	NONE	
JP 06046547	A	18-02-1994	NONE	
JP 06113505	A	22-04-1994	NONE	